

REMARKS

Claims 1, 5-8, and 11-26 are pending in the application. Claim 1 has been amended. No new matter has been introduced by the amendment.

Rejection Under 35 U.S.C. 112, first paragraph

Claims 1, 5-8, and 11-26 have been rejected for allegedly failing to be supported by a written description of the invention. The applicants assert that this rejection is in error in view of the support for claim 1 provided in their specification. Nevertheless, the applicants have removed the language directed to exposing the surface portion in order to expedite prosecution of their application. The applicants further assert that claim 1, as amended, is patentable over the cited references.

Claim 1 recites that the method includes “a step of at least partly eliminating the sacrificial layer such that the surface portion at least partially faces the second plate.” In the context of claim 1, the term “faces” necessarily means that the roughed portion of the first plate is opposite to the second plate, with no intervening structure between the roughed portion of the first plate and the second plate. Accordingly, the claimed method differs from the prior art methods in which a sacrificial layer is planarized or surface portions are globally etched away.

The sacrificial layer is a layer that can be eliminated subsequently, such as during use of the stacked structure to fabricate a mobile or deformable component. (See, Specification, pg. 2, ll. 26-32, pg. 3, ll. 1-6). An example of processing a sacrificial layer (3) is illustrated in FIG. 3 and 4 of the applicants’ drawing. In the illustrated example, the sacrificial layer (3) covers the rough surface of the plate (1) (denoted as element 2 in FIG. 2). At least partial elimination of the sacrificial layer provides that, when the plates are brought together, the surface portion faces the other plate.

As described in the applicants’ substitute specification:

“a portion of the intermediate sacrificial layer between the two plates may be eliminated, for example, to obtain two facing surfaces at least one of which is appropriately structured. This prevents the two surfaces sticking together following movement of the two substrates toward each other.”
(Substitute Specification, pg. 7, lines 20-25).

The applicants assert that one skilled in the art would understand the meaning of the word “faces” as used in the applicants’ specification and claims. The words of a claim must be given their plain and ordinary meaning unless such meaning is inconsistent with the specification. See, MPEP §2111.01 I. In the context of their claims, the applicants use the plain and ordinary meaning of the word “face,” which is defined as: “to stand or sit opposite to.” *Webster’s Third New International Dictionary*, Merriam-Webster, Inc., 2002, pg.811, vb, 2a. In this context, the word “opposite” means “set over or against something that is at the other end or side of an intervening line or space: FACING.” Id. at pg. 1583, *adj*, 1a. Dictionaries are often used to understand the plain and ordinary meaning of claim language. See MPEP §2111.01 III; *PODS Inc. v. Porta Stor Inc.*, 82 USPQ2d 1553,1558 (Fed. Cir. 2007)(the court consulted *Webster’s Third New International Dictionary* to interpret the word “around”). Thus, the phrase “the surface portion at least partially faces the second plate” in claim 1 is understood to mean that the surface portion is opposite to the second plate and on the other side of an intervening line or space. Which necessarily defines the plates to be arranged without any intervening structure, as described above.

As noted above, the specification describes that the process of removing at least a portion of the sacrificial layer prevents the plates from sticking together. This necessarily implies that they would otherwise stick to one another as they are brought together, were it not for an intervening line or space. The intervening line or space can be created by at least partly eliminating the sacrificial layer, as described in the quoted portion of the applicants’ specification above, and as recited in claim 1. Accordingly, the applicants assert that one of skill in the art would understand their claims to recite a method in which the roughed portion of the first plate is opposite to the second plate, with a space, or in other words, no intervening structure between the roughed portion of the first plate and the second plate.

The Office Action asserts that there is no description of exposing the roughened surface portion of the underlying plate. (Office Action, pg. 2). Although the written description rejection is moot in view of the amendment of claim 1, the applicants assert that they disclose processes in which at least a portion of the sacrificial layer (3) is

removed, thereby exposing a portion of the rough surface of the underlying plate. In addition to the plain and ordinary meaning, by way of their specification, the meaning of the term “faces” as it appears in the applicants’ claims is readily understood.

The concept of etching the sacrificial layer is described in the context of various embodiments of the invention. For example, with respect to mobile structures in the disclosed devices, the applicants describe that:

“it is perfectly feasible, in a variant of the invention, to place the steps of the method of producing the microstructure, for example the etching of areas in the sacrificial layer in contact with the mobile portions, in the middle of the steps that have just been described, for example before the bonding step.” (Substitute Specification, pg. 14, lines 16-21).

The applicants describe the use of photolithographic techniques to restrict processing to only a portion of the plate.

“The embodiment described above may be modified or generalized in various ways. In particular, the method may relate to the whole or only a portion of the surface of at least one of the plates or one of the films treated. For example, a predetermined structure may be obtained in a localized area using a lithographic process.” (Substitute Specification, pg. 14, lines 29-32; pg. 15, lines 1-3).

The applicants describe that selective processing, such as deposition and etching, is used to selectively process the sacrificial layer.

“It is clear that a non-continuous sacrificial layer may be obtained, for example by localized deposition or by etching; this enables areas already opened up to be defined in the stacked structure.” (Substitute Specification, pg. 16, lines 26-29).

The stacked structure described above is made by bringing the plates together as described throughout the applicants’ specification. In one embodiment of the invention, the plate could also have a surface layer overlying the plate, and this surface layer can be exposed by selective processing of the sacrificial layer. (See, for example,

Substitute Specification pg. 15, lines 8-32; pg. 16, lines 1-10). In any of the embodiments, the sacrificial layer may be totally removed before or after processing.

The applicants assert that claims 1, 5-8, and 11-26 recite inventive subject matter fully supported by their specification in compliance with 35 U.S.C. §112, first paragraph, and that distinguishes over the cited references.

Rejection Under 35 U.S.C. 102(b)

Claim 26 has been rejected over Shimada et al. This rejection is overcome in view of the following remarks.

Shimada et al. disclose a first substrate (1) having a peeling layer (4) overlying the substrate surface and the dents (3) in the surface. A light blocking layer (5) partially covers the peeling layer. A second substrate (8) has a mask layer (10) covering a discontinuous surface, and a bonding layer (7) partially covering the mask layer. In the bonded structure illustrated by Shimada et al. in FIG. 1E, the peeling layer (4) and the mask layer (10) remain on facing surfaces of their respective substrates. Shimada et al. do not suggest or disclose at least partially removing either the peeling layer or the light blocking layer. Accordingly, Shimada et al. fail to suggest or disclose a roughed surface portion that at least partially faces the second plate.

Substance of Interview

On July 13, 2009, the applicant's representative conducted a telephone interview with Examiner Patel and Examiner Garber. The applicants wish to thank the Examiners for their courtesy in granting the Interview. The applicants' representative explained the applicants' position that the specification supports the method recited in claim 1, and the applicants' definition of the term "faces."

The applicants wish to point out that they are referring to the portion of their specification reproduced above (Substitute Specification, pg. 7, lines 20-25) as one particular example of their specification's description regarding the structural relationship of the first and second plates recited in claim 1. Further, the applicants have provided independent support for their assertion that they use the plain and ordinary meaning of the word "faces." Accordingly, the applicants respectfully disagree

with the Examiner's statement in the Interview Summary that the applicants are using a "special definition." The portions of their specification identified by the Examiner in the Interview Summary (also set forth above) describe various ways of removing the sacrificial layer, including partially removing portions of this layer in such a way that the roughened surface of the underlying plate is exposed. Taken as a whole, the specification provides support both explicitly and inherently for the applicants' claims.

The applicants have made a novel and non-obvious contribution of the art of stacked structure device fabrication. The claims at issue distinguish over the cited references and are in condition for allowance. Accordingly, such allowance is now earnestly requested.

Respectfully submitted,

Date: July 23, 2009

/Jasper W. Dockrey/
Jasper W. Dockrey
Registration No. 33.868
Attorney for Applicants

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200